(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 6 May 2005 (06.05.2005)

PCT

(10) International Publication Number WO 2005/040932 A2

(51) International Patent Classification7: 7/00, B29C 59/02

G03F 9/00,

(74) Agents: LINDBERG, Olle et al.; Albihns Malmö AB, Patent Department, P.O. Box 4289, S-203 14 Malmö (SE).

(21) International Application Number:

PCT/EP2004/052656

- (22) International Filing Date: 25 October 2004 (25.10.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03024307.5 60/481,561

24 October 2003 (24.10.2003) 27 October 2003 (27.10.2003) US

(71) Applicant (for all designated States except US): OBDU-CAT AB; P.O. Box 580, S-201 25 Malmö (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MONTELIUS. Lars [SE/SE]; Montelinvägen 16, S-237 35 Bjärred (SE). BECK, Marc [DE/SE]; Fågelhundsvägen 19, S-226 53 Lund (SE). CARLBERG, Patrick [SE/SE]; Ulrikedahlsvägen 4 A701, S-224 58 Lund (SE). WAHLSTRÖM, Claes-Göran [SE/SE]; Trollebergsvägen 77b, S-227 31 Lund (SE). PERSSON, Anders [SE/SE]; Astrakangatan 8, S-240 14 Veberöd (SE). AN-DERSSON-ENGELS, Stefan [SE/SE]; Stormvägen 3. S-243 35 Höör (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FL, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

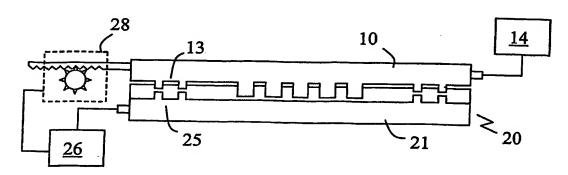
Published:

ZW.

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR ALIGNING SURFACES



(57) Abstract: Method, apparatus and stamp for aligning a first surface (11) of a first object (10) with a second surface (22) of a second object (20), facing said first surface, wherein light of a predetermined wavelength is introduced into one (10) of said objects and caused to propagate by internal reflection therein. The first and second surfaces carry correlating structures (13,25) which, when arranged at close distance from each other, couple light from said one object to the other of said objects by near-field tunnelling, to a degree dependent on the overlap of said structures. A light detector (26) is devised to detect a signal which is dependent on the amount of light coupled between said objects, for producing an alignment control signal. The invention is suitable for use in nanoimprint lithography.



